Subject: Smooth function question
Posted by zolile mtumela on Wed, 15 Oct 2014 13:11:03 GMT
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Dear all,
I got a 3D data. I applied a SMOOTH function like smooth(a,3), the plots look fine and when I print the number of elements on the screen are equal as the original data. But when wrote to a file I found that there is a missing element or number is not corresponding with original data. I checked using excel. I am a bit confused, I need some help. Any suggestion is very welcome,
Thanks
Zolile

Subject: Re: Smooth function question
Posted by Helder Marchetto on Wed, 15 Oct 2014 13:29:30 GMT
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On Wednesday, October 15, 2014 3:11:05 PM UTC+2, zolile...@gmail.com wrote:
> Dear all,
>
> I got a 3D data. I applied a SMOOTH function like smooth(a,3), the plots look fine and when I print the number of elements on the screen are equal as the original data. But when wrote to a file I found that there is a missing element or number is not corresponding with original data. I checked using excel. I am a bit confused, I need some help. Any suggestion is very welcome,
>
> Thanks
>
> Zolile

Yes, smooth is not your problem.

```
IDL> a = randomu(s,100,100,100)
IDL> help, a
A               FLOAT     = Array[100, 100, 100]
IDL> help, smooth(a,3)
<Expression>    FLOAT     = Array[100, 100, 100]
```

Your problem is writing the data and/or reading the data. Without some code to look at, it's difficult to say.
Whatever, smooth() does not change the number of elements. At the edges "strange" things might happen, but no element is lost.

cheers, Helder

Subject: Re: Smooth function question
Posted by zolile mtumela on Wed, 15 Oct 2014 13:37:12 GMT

On Wednesday, October 15, 2014 3:11:05 PM UTC+2, zolile...@gmail.com wrote:
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>
> Thanks
>
> Zolile

```
openR, Lun, File,/Get_Lun
readf, Lun, str
while~eof(lun) do begin

readf,lun,date,time,Bx,By,Bz
print,date,time,Bx,By,Bz
Bx_array = [Bx_array, Bx]
By_array = [By_array, By]
Bz_array = [Bz_array, Bz]
endwhile
free_lun,lun
    Bx_array=Bx_array[1:*]
    By_array=By_array[1:*]
    Bz_array=Bz_array[1:*]


   Nx = n_elements(Bx_array)
    time = findgen(Nx)
    time = time/225.

   Ny = n_elements(By_array)
    time = findgen(Ny)
    time = time/225.

    Nz = n_elements(Bz_array)
    time = findgen(Nz)
    time = time/225.

    Smoothed1 = smooth(Bx_array,3)
    Smoothed2 = smooth(By_array,3)
    Smoothed3 = smooth(Bz_array,3)

     NN1=n_elements(smoothed1)
     NN2=n_elements(smoothed2)
     NN3=n_elements(smoothed3)
```

```
    print, smoothed1

  print, NN1,NN2,NN3

  openw,1,'dataxx.txt'
    printf,1,transpose(smoothed1)
    close,1
```

Subject: Re: Smooth function question
Posted by Helder Marchetto on Wed, 15 Oct 2014 14:56:56 GMT
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On Wednesday, October 15, 2014 3:37:14 PM UTC+2, zolile...@gmail.com wrote:
> On Wednesday, October 15, 2014 3:11:05 PM UTC+2, zolile...@gmail.com wrote:
>
>> Dear all,
>
>>
>
>> I got a 3D data. I applied a SMOOTH function like smooth(a,3), the plots look fine and when I print the number of elements on the screen are equal as the original data. But when wrote to a file I found that there is a missing element or number is not corresponding with original data. I checked using excel. I am a bit confused, I need some help. Any suggestion is very welcome,
>
>>
>
>> Thanks
>
>>
>
>> Zolile
>
>
>
> openR, Lun, File,/Get_Lun
>
> readf, Lun, str
>
> while~eof(lun) do begin
>
>
>
> readf,lun,date,time,Bx,By,Bz
>
> print,date,time,Bx,By,Bz
>
> Bx_array = [Bx_array, Bx]

```
>
>  By_array = [By_array, By]
>
>  Bz_array = [Bz_array, Bz]
>
>  endwhile
>
>  free_lun,lun
>
>     Bx_array=Bx_array[1:*]
>
>     By_array=By_array[1:*]
>
>     Bz_array=Bz_array[1:*]
>
>
>
>
>
>    Nx = n_elements(Bx_array)
>
>     time = findgen(Nx)
>
>     time = time/225.
>
>
>
>    Ny = n_elements(By_array)
>
>     time = findgen(Ny)
>
>     time = time/225.
>
>
>
>     Nz = n_elements(Bz_array)
>
>     time = findgen(Nz)
>
>     time = time/225.
>
>
>
>     Smoothed1 = smooth(Bx_array,3)
>
>     Smoothed2 = smooth(By_array,3)
>
>     Smoothed3 = smooth(Bz_array,3)
```

```
>
>
>
>       NN1=n_elements(smoothed1)
>
>       NN2=n_elements(smoothed2)
>
>       NN3=n_elements(smoothed3)
>
>       print, smoothed1
>
>
>
>    print, NN1,NN2,NN3
>
>
>
>    openw,1,'dataxx.txt'
>
>      printf,1,transpose(smoothed1)
>
>      close,1
```

According to your post from before, the number of elements by the print command (monitor output) do not match with those of the text file produced.

I tried replicating your last lines:

```
IDL> openw,1,'dataxx.txt'
IDL> smoothed = findgen(100)
IDL> printf,1,transpose(smoothed)
IDL> close,1
IDL> print, FILE_LINES('dataxx.txt')
           100
```

So I get 100 lines in the text file. Something like this:

```
     0.000000
      1.00000
      2.00000
      3.00000
      4.00000
      5.00000
...
      95.0000
      96.0000
      97.0000
      98.0000
      99.0000
```

This is the same as if I did
IDL> print, smoothed

So I think there is something missing part in your code or you're mixing up files when checking what has been done.

Maybe try putting a time stamp... something like

```
IDL> start_t = systime()
IDL> print, 'start : '+start_t
IDL> printf,1,start_t
IDL> printf,1,transpose(smoothed)
IDL> end_t = systime()
IDL> print, 'end : '+end_t
IDL> printf,1,end_t
IDL> close,1
```

Do the values in the file and on the screen match?
If they match, then you have to have a file with a number of lines equal to the number of elements of smoothed + 2 (for the time stamps!)

Cheers, Helder

Subject: Re: Smooth function question
Posted by zolile mtumela on Thu, 16 Oct 2014 07:14:19 GMT
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On Wednesday, October 15, 2014 3:11:05 PM UTC+2, zolile...@gmail.com wrote:
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> Thanks
>
> Zolile

```
23-03-2002 16:11:33.000  1.57100      -8.41400         -4.89800
23-03-2002 16:11:49.000  1.57200      -8.60200         -4.59500
23-03-2002 16:12:05.000  1.00100      -8.48400         -5.06300
23-03-2002 16:12:21.000  0.806000     -8.38700         -5.26600
```

Date_array = 0
time_array = 0
Bx_array = 0

By_array = 0
Bz_array = 0

Thanks Helder
I think my problem is on time array, Bcz I would also like to print time as it is/similar, I am having hard time to do so!! And I would like to print all these time Bx, By and Bz in one file.

Many thanks
Zolile
